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ABSTRACT

At the request of the Community Hospital Education Council of Florida, this study was performed to assist the Council in its function of helping to provide a continuing supply of highly trained physicians, in the appropriate specialities, in the communities where they are needed. The objective of the study was to conduct an accurate inventory, by specialty, of physicians in active practice in Florida and to identify gaps in the supply and distribution of physicians. The inventory was compared first with the physician staffing patterns of several major group health plans, ratios that have frequently been used for comparison with the number of practitioners in certain populations. This comparison developed an "excess" of physicians in primary care and in most specialities for the state. Such a finding is markedly inconsistent with the availability of physicians that actually pertains in Florida today. Under the conclusion that the group health plan ratios do not apply to the system by which health care and physicians' services are delivered to Floridians at this time, the author of this report has developed a set of recommended baseline physician ratios and has compared the inventory with those. Related tables are included in the appendices. (Author)

ED 088302

PHYSICIAN MANPOWER IN FLORIDA

SERIES

I. A Report on

Physician Distribution in Florida

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Prepared for the

STATE UNIVERSITY SYSTEM of FLORIDA

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Office of the Board of Regents
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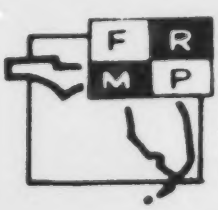

A REPORT ON PHYSICIAN DISTRIBUTION IN FLORIDA

This study was performed at the request of the Community Hospital Education Council of Florida to assist the Council in its function of helping to provide a continuing supply of highly trained physicians, in the appropriate specialties, in the communities where they are needed. The objective of the study was to conduct an accurate inventory, by specialty, of physicians in active practice in Florida and to identify gaps in the supply and distribution of physicians. The inventory was compared first with the physician staffing patterns of several major group health plans, ratios which have frequently been used for comparison with the number of practitioners in certain populations. This comparison developed an "excess" of physicians in primary care and in most specialties for the state.

Such a finding is markedly inconsistent with the availability of physicians which actually pertains in Florida today. Under the conclusion that the group health plan ratios do not apply to the system by which health care and physicians' services are delivered to Floridians at this time, the author of this report has developed a set of recommended baseline physician ratios and has compared the inventory with those.

MAJOR FINDINGS

I. Numbers of Physicians

In March, 1972, Florida had a lesser number of physicians, 141 per 100,000 population[1], than the average in the United States, which was estimated to be 159[2]. The rate of physician growth, however, is outrunning even the extraordinary gain in population and in early 1973, the Florida ratio had grown to 147 per 100,000 people.[1] These figures include doctors of medicine and osteopathy, federal and state physicians and those in administrative and teaching positions but do not include those physicians who report they are no longer active.

Even though the state has a growing number of physicians in general, in terms of the ratios recommended by this study, Florida is significantly short of primary care physicians, including pediatricians. It is also particularly short of psychiatrists. There is a lesser shortage in obstetrics/gynecology and physical medicine. The state, as a whole, is adequately supplied with physicians in most of the other major specialties at this point in time.*

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*Anesthesiologists, pathologists and radiologists practice in Florida in approximately the same ratios to population as they do nationally. They have not been projected explicitly as to need in this study because they differ from other clinical specialties because of their significant institutional relationships. They should be the subject of an additional study with special criteria for ratios.
These three specialties have, however, been throughly inventoried and have been specified in this report in Table II and in those tables relating to all physicians.

II. Distribution

There are severe problems of distribution of physicians. The concentration ranges from 227 physicians per 100,000 persons in Dade County to no physicians who are resident in Lafayette, Liberty and Gilchrist Counties.* There are reported to be three or less physicians in nine other counties. The concentrations of physicians in certain of the coastal counties of Florida make them relatively rich in physicians' services. On the other hand, Florida's great geographic size, its long distances to marketing centers for health care and other services, and its sparsely populated areas in the Big Bend and down the central core put many Floridians out of convenient reach of physicians' services at the primary level and, to a lesser extent, at the secondary level. This poor distribution of physicians is a major problem in Florida and should receive even more stimulus for improvement than the matter of total physician supply.

III. Inmigration

The number of physicians licensed and reported as active underwent a net increase of 749 between March, 1972, and February, 1973, according to the reports of the Florida Department of Professional and Occupational Regulation. This is an extraordinary growth for one year. Most of the growth comes from physicians who have migrated

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* The Department of Community Health and Family Medicine at the University of Florida College of Medicine reports that it makes primary physician services available to 90% of the people of Lafayette County through its Lafayette County Health Center. This Department also operates a program in Gilchrist County, making available the services of physicians' assistants under the supervision of physicians on the faculty of the Department.

to Florida from other states. Further, in February, 1973, the DPOR reported that there were 6,781 doctors of medicine and over 1700 osteopaths who held Florida licenses but who had not yet established a practice in the state. A recent study projects 171 physicians per 100,000 population by 1975.[3]

It is observed that the growing inmigration of physicians is having a marked and immediate effect on the availability of medical services in Florida. It not only will keep the supply of physicians even with the growth in population but will continue to raise the ratio to population.

However, uncontrolled inmigration also can accentuate the problems of maldistribution. A detailed study of the nearly 8500 physicians who already hold Florida licenses but have not yet moved to the state might lead to a plan to influence them to practice in Florida where they will meet a geographical and/or specialty need. The Board of Medical Examiners already has valuable preliminary data on some of these out-of-state licensees but more information is needed.

DATA SOURCE

For doctors of medicine, the data used in this study was taken from a printout of a tape from the Central Automated Physician Information System, a program of Fisher-Stevens, Inc., based on data from the American Medical Association's physician master file. It was acquired through the Florida Medical Association. It recorded 9,309 doctors

of medicine as licensed and with offices in Florida as of February 16, 1973. To these were added six national Health Service Corps physicians temporarily assigned to Florida. Adjustments in two rural counties resulted in the net addition of one physician not listed on the tape. This increases the doctors of medicine to 9,316 and compares with 9,541 doctors of medicine reported as licensed in March, 1972, by the DPOR and the 10,290 reported by the DPOR in February, 1973.

Thus, the numbers of doctors of medicine used in this study is roughly equal to those reported by the state a year earlier and nearly one thousand less than those reported concurrently with the tape analysis. It was also observed that there are a few doctors of medicine licensed and active, particularly in the academic centers, who are not on the tape used in this study. However, it is generally recognized that there are several hundred doctors of medicine in Florida who are licensed and reported "active" but whose practice essentially has been terminated.*

Because of extensive crosschecking of records and directories, it is felt that the number of physicians reported by the tape and used in this study reflects most accurately the number who are in active clinical practice.

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*NOTE: It is this difference between <u>licensed</u> physicians and those who are truly <u>active</u> which accounts for the variation between the number of physicians per 100,000 population licensed in Florida in 1972 (141) as cited in Table I, and the number of active practitioners per 100,000 population tabulated in the study (130.6), as indicated in Tables V and VIII.

TABLE I

Physicians* (M.D.'s and D.O.'s) per 100,000 Population - 1972

United States	159
Florida	141
Broward County	139
Dade County	227
Duval County	125
Hillsborough County	122

*including federal physicians but excluding inactive physicians.

SOURCE: U.S. ratio - Center for Health Services Research and Development, American Medical Association; Florida and County ratios - Florida Department of Professional and Occupational Regulation.

NOTE: According to the reports of the WHO Regional Office for Europe and the Organization for Economic Corporation and Development, the following ratios of physicians per 100,000 population existed in 1965-1966.

Australia	167	England and Wales	115
Canada	120	USSR	210
Czechoslovakia	185	West Germany	157

OSTEOPATHS

The number of osteopaths in the study is 603, the number reported as licensed and practicing in February, 1972.[1] The number licensed and practicing in February, 1973, is 622,[1] but the information about their distribution by county was not available at the time of the study. Therefore, the total for February, 1972, was used. Further information was not available on the osteopaths who were restricting their practice to a specialty. While this is a growing trend among osteopaths, it is estimated by the profession that not more than 10% of the osteopaths in Florida were specializing at the time of this study. The study counts all of the osteopaths as primary physicians and it is felt that this does not distort the findings significantly.

BASIC EXHIBITS

The numbers of physicians in the United States, Florida and its three most populous counties, in ratio to population, is shown in Table I, as are some relatively recent ratios for other countries.

Several countries of the world besides Australia and the USSR have higher ratios of physicians than the United States. Of course there are significant differences in the length and content of the educational programs. Nevertheless, the variation is wide at every geographic level.

Blumberg notes the sharp rise of active M.D.'s in the U.S. since 1963 when a large number of foreign medical school graduates were enumerated and the ratio was 136.[4] With increases in the graduates

PHYSICIANS (M.D.'S AND D.O.'S) PRACTICING IN FLORIDA - BY SPECIALTY AND BY COUNTY

POPULATION 1,000s	COUNTY	PRIMARY CARE	ANESTHESIOLOGY	DERMATOLOGY	NEUROLOGY	NEURO-SURGERY	OB/GYN	OPHTHALMOLOGY	ORTHOPAEDICS	OTOLARYNGOLOGY	PATHOLOGY	PHYSICAL MEDICINE	PSYCHIATRY	RADIOLOGY	SURGERY	UROLOGY	OTHER SPECIALTY	UNSPECIFIED	NOT IN PRACTICE	TOTAL IN PRACTICE 2/16/73	TOTAL LICENSED March, 1972	TOTAL LICENSED Feb., 1973	PEDIATRICS
111	ALACHUA	235	22	2	7	7	22	24	12	11	9	1	34	21	53	6	5	3	67	439	466	480	39
10	BAKER	3											8		1			1		13	11	13	
77	BAY	25				1	5	2	2	2	2		4	3	7	2			3	58	64	62	4
15	BRADFORD	3						1											1	5	7	6	
234	BREVARD	84	4	5		2	19	7	8	5	7		7	6	23	7	1	3	7	195	191	216	11
682	BROWARD	459	36	18	13	11	60	33	43	23	21	2	40	48	93	33	7	3	4	947	948	1045	53
8	CALHOUN	2									1									3	3	3	
31	CHARLOTTE	18	1				1	2	1		1		1	3	4	2	1	1	2	38	32	39	1
22	CITRUS	7					1								3				1	12	9	14	
35	CLAY	24	2	1	1		1	1			2		1	2	3			1	1	40	62	59	2
43	COLLIER	37	2	1	1	1	4	3	2	1	2		2	3	9	2	1			71	71	77	4
27	COLUMBIA	17					3		1		1			2	3	2	1		1	31	28	30	1
1,341	DADE	1290	120	46	36	24	170	108	106	51	80	15	177	128	306	69	31	25	148	2930	3046	3243	151
14	DESOTO	7											7		2					16	12	16	
6	DIXIE	2																		2	1	1	
547	DUVAL	237	35	8	6	7	69	25	32	14	20		26	33	92	23	3	7	29	668	684	735	44
213	ESCAMBIA	67	6	5	3	4	19	12	11	11	8		8	10	27	7		5	9	212	231	243	14
5	FLAGLER	2													1			1		4	3	2	
7	FRANKLIN	4																	1	5	5	5	
39	GADSDEN	14						1					6		2		1			26	23	28	1
4	GILCHRIST	0																		0	1	1	
4	GLADES	2																		2	1	1	
10	GULF	3																		3	4	3	
8	HAMILTON	2																		2	3	2	
15	HARDEE	8					1								1		1			11	12	12	
13	HENDRY	7					1													6	6	7	
18	HERNANDO	5					1							2					1	12	9	11	
31	HIGHLANDS	20					1								4				1	26	31	31	1
509	HILLSBOROUGH	256	18	8	3	3	40	24	21	18	26	3	34	36	68	20	7	4	22	611	621	672	38
11	HOLMES	1																		1	3	2	
38	INDIAN RIVER	23	3	1			4	2	2	1	3		2	2	4	2			1	50	48	54	2
35	JACKSON	8												2	2			1	1	14	17	19	1
9	JEFFERSON	4																		4	5	5	
3	LAFAYETTE	0																		0	1	0	

TABLE II

PHYSICIANS (M.D.'S AND D.O.'S) PRACTICING IN FLORIDA - BY SPECIALTY AND BY COUNTY

POPULATION 1,000s	COUNTY	PRIMARY CARE	ANESTHESIOLOGY	DERMATOLOGY	NEUROLOGY	NEUROSURGERY	OB/GYN	OPHTHALMOLOGY	ORTHOPEDICS	OTOLARYNGOLOGY	PATHOLOGY	PHYSICAL MEDICINE	PSYCHIATRY	RADIOLOGY	SURGERY	UROLOGY	OTHER SPECIALTY	UNSPECIFIED	NOT IN PRACTICE	TOTAL IN PRACTICE 2/16/73	TOTAL LICENSED March, 1972	TOTAL LICENSED Feb., 1973
72	LAKE	36	2				3	2	4	1	2			3	8	2		2		65	56	64
120	LEE	60	4	1	1	1	8	5	4	3	3		4	5	14	5	1		2	123	118	137
109	LEON	53	1	1	2	2	10	5	5	5	2		12	5	16	6	5		4	136	126	141
13	LEVY	2																		6	5	6
3	LIBERTY	0																		0	0	0
13	MADISON	3													1					4	10	9
103	MANATEE	38	5	2	1	1	6	6	3	3	3		2	6	13	3	0		1	93	94	98
73	MARION	38	2	1		1	6	2	3	2	2		2	2		2	1		3	67	62	66
31	MARTIN	16	1				5	1	3	1	1			1	4	1				34	29	37
53	MONROE	23	3	1			4	1	5	2	1		2	2	6	2	1		1	54	84	79
22	NASSAU	9													1				1	11	5	13
94	OKALOOSA	27		2			3	2	1	3	2		6	3	3	2	3	2	2	60	71	69
12	OKEECHOBEE	4													1					5	6	7
390	ORANGE	234	21		5	6	39	24	38	11	21	2	27	26	78	20	6	9	8	582	395	626
29	OSCEOLA	9													1		1			13	12	15
375	PALM BEACH	228	18	10	4	5	31	22	25	9	12	2	21	25	67	14	4		8	505	523	560
85	PASCO	34						1		1		1		1	3	2				43	40	49
542	PINELLAS	374	27	10	9	6	38	34	31	17	25	2	33	35	71	22	8	1	5	748	757	804
240	POLK	120	11	6	2	3	26	11	12	6	6		12	20	37	7	4	1	1	285	278	301
32	PUTNAM	8					1								5				1	15	16	17
32	ST. JOHNS	10					1	1		1	1			1	2	1		1	1	20	22	26
53	ST. LUCIE	14	1				2	3	2	2	1		2	3	8	1			1	42	37	40
40	SANTA ROSA	9	1				4	2						2	2			2	3	25	27	29
130	SARASOTA	99	10	5	2	3	12	13	12	3	6	1	10	7	21	8	2	2		216	206	219
91	SEMINOLE	28	5	1	1		4	2	2	1	2		1	2	8	1	1	2		61	52	70
16	SUMTER	2																		2	5	4
16	SUWANNEE	4																		4	4	4
14	TAYLOR	6					1							1	1		1			10	6	9
8	UNION	6											1		1			2		10	4	11
180	VOLUSIA	107	5	2	1	2	13	8	11	4	4		8	10	22	7	1	2	5	212	221	235
7	WAKULLA	1																		1	1	1
16	WALTON	6																		6	7	7
12	WASHINGTON	2													1					3	3	3
	TOTAL	4384	366	147	100	90	639	389	403	212	277	29	503	401	1112	281	98	81	347	9919	10144	10893

NOTE: Primary Care includes doctors of medicine in General Practice, Family Practice, Internal Medicine and its subspecialties, Pediatrics and doctors of osteopathy. For information, the number of Pediatricians is shown in the last column to the right. Surgery includes General Surgery and its subspecialties, Colon and Rectal Surgery, Plastic Surgery and Thoracic Surgery. Population figures are to the nearest thousand of estimated population on July 1, 1972, according to projections of the 1970 Census of Population by the Bureau of Economic and Business Research, University of Florida.

SOURCE: Specialty and county breakdowns and total in practice are doctors of medicine from the Central Automated Physician Information System, adjusted by local data, plus osteopaths. The distribution of osteopaths and the total numbers of physicians licensed are as reported by the Florida Department of Professional and Occupational Regulation.

of U.S. schools, the ratio of M.D.'s grew to 150 in 1970. This ratio became 157 when the estimated number of active D.O.'s were added.

The distribution of physicians by primary care and the major specialties in the 67 counties of Florida is displayed in Table II. This is the fundamental data exhibit of this study. Table II tabulates the physicians by specialty, including primary care, and county. Primary care includes General Practice, Family Practice, Internal Medicine and its subspecialties, Pediatrics and the Osteopaths. Surgery includes General Surgery and its subspecialties, Colon and Rectal Surgery, Plastic Surgery and Thoracic Surgery.

Data from this table is used in many other exhibits in this study. It is particularly adaptable to regional or county analysis as shown in the Appendices at the end of the report.

ADJUSTMENTS TO PHYSICIAN INVENTORY

Adjustments were made in Table III to eliminate physicians who were in administrative positions or otherwise not in clinical practice. There is a full time equivalent adjustment for physicians who are primarily engaged in teaching in the medical schools. It was determined that, on the average, each full time faculty member in Florida's three medical schools sees about one-half as many patients as a community practitioner. About half of the faculty's effort is devoted to teaching and research. This adjustment included as faculty the physicians at the Veterans Administration hospitals in Gainesville, Miami and Tampa. No adjustment was made for the Veterans Administration physicians in Bay Pines and Lake City.

TABLE III

Physicians Excluded from Study Projections

Total M.D.'s (9316) and D.O.'s (603) Identified - 9919

Excluded Specialties -	Aerospace Medicine	23
	General Preventive Medicine	10
	Forensic Pathology	5
	Legal Medicine	1
	Occupational Medicine	29
	Public Health	91
Teachers -	50% of full time faculties	188
	TOTAL - NOT IN PRACTICE	347
	Other Specialties (Unknown)	98
	Unspecified	81
	TOTAL - UNCLASSIFIED	179
Not Projected -	Anesthesiology	366
	Pathology	277
	Radiology	461
	TOTAL - NOT PROJECTED	1104
	TOTAL EXCLUDED	1630
	Physicians in Study	8289

The great majority of the patients in the Veterans Administration hospitals in Florida have a Florida residence.

Table III also shows the elimination from the study of those specialties which are not generally part of clinical practice.

Ninety of the 188 physicians reported on the tape as "other specialty" have been reclassified to the principle specialty in which they were trained. Those in "other specialty" which could not be so reclassified were considered to be not in practice.

Eighty-one physicians who did not specify their field of practice were eliminated from the study.

Anesthesiologiests, pathologists, and radiologists have not been projected in this report (Table III) and have been specified separately as indicated above.

RESIDENTS AND INTERNS

There are reported to be approximately 1300 residents and interns in Florida hospitals. This is a lower proportion of the state's physicians than the national average. Those who are licensed are listed in the tape and are included in this study. These physicians in training are heavily concentrated in Alachua, Dade, Duval and Hillsborough counties, the locations of the medical schools and most of their affiliated teaching hospitals. Interns and first year residents tend not to be licensed. Those in their second or later year of residency are generally licensed. It is the judgment of the educators in the three medical centers that the senior, licensed house officers render a large amount of physician services to the public. Even though they

practice in a different setting and the house officer's patient load may be slightly less than that of the average private practitioner, the difference is more than offset by the physician services rendered by the unlicensed physicians in training. Therefore, each of the licensed house officers has been considered the equivalent of one full time practitioner in this study.

GROUP HEALTH PLAN RATIOS

Table IV shows the staffing patterns of primary physicians and specialists in ratios per 100,000 persons for five large, comprehensive group health plans in the United States. None of these plans is in Florida. No significant portion of Florida's population is organized into one of these large group plans. It is recognized that the group plans do not typify the ideal ratio of physicians to population in any specific geographic area other than that served by the plan, must be adjusted for heavily populated or sparsely populated areas and do not reflect the condition of the medical market place in general. The number of primary physicians which is the average standard for the five group health plans in this study is 59 per 100,000 population. This ratio is approximately that which pertains now for primary care physicians in Florida. Yet a shortage of primary care physicians is widely recognized in many sections of Florida, as it is generally throughout the entire United States which has, nationally, about the same ratio (Appendix C). Still, we should look at Florida's ratios in comparison with the averages of the five group health plans and examine the variations.

TABLE IV

Physician Staffing Patterns in Five Health Care Plans - 1970*

(Physicians per 100,000 persons)

Specialty	Permanente Med. Group N. Calif.	Permanente Med. Group S. Calif.	Group Health Assoc. Wash., D.C.	Health Ins. Plan New York	Group Health Cooperative Puget Sound	Average
Primary Care (1)	51.5	60.0	65.0	61.0	57.2	59.0
Dermatology	3.0	2.0		1.0	2.8	2.1
Neurology	.5	1.0			.7	.7
Neurosurgery	1.0	1.0			1.4	1.1
OB/GYN	9.0	10.0	10.0	11.0	8.5	9.7
Ophthalmology	3.0	2.0		3.0	2.1	2.5
Orthopedics	4.0	3.0		4.0	2.1	3.3
Otolaryngology	3.0	3.0		2.0	1.4	2.4
Pediatrics (2)	(17.5)	(16.0)	(19.3)	(22.0)	(9.9)	(16.9)
Physical Medicine		1.0				1.0
Psychiatry (3)	1.5			2.0	2.8	2.1
Surgery	9.0	8.0	11.0	6.0	4.9	7.8
Urology	1.5	2.0		1.0	2.1	1.7
Other (4)	8.0	6.0 (5)	4.0	4.0	7.0	5.8
TOTAL	95.0	99.0	90.0	95.0	93.0	99.2

1) Primary Care includes General Practice, Family Practice, Internal Medicine and its sub-specialties, and Pediatrics.

2) Pediatrics staffing patterns are included in Primary Care and are listed for information only.

3) Services from Psychiatrists in the plans are very limited.

4) Anesthesiology, Pathology, and Radiology.

5) Includes one Emergency Physician.

*as reported in The Kaiser-Permanente Medical Care Program - A Symposium, Anne R. Somers, Editor, The Commonwealth Fund, March, 1971; Bennett, R: Residency Program Size, a paper presented at the annual meeting of the American Medical Association, 1972; Mason, H.R.: Manpower Needs by Specialty, JAMA, Vol. 219, March 20, 1972.

This comparison is made in Table V, by ratios to population, and in Table VI, by total numbers of physicians. If we accept the group health plan criteria at face value, there is already in Florida an excess of primary care physicians, a marked excess of surgeons, psychiatrists, ophthalomologists, orthopedists and urologists and a lesser excess of neurologists, otolaryngologists and neurosurgeons. Shortages exist in obstetrician /gynecologists, physiatrists and dermatologists.

An excess of primary care physicians in Florida is seemingly an unrealistic finding because fifty of the sixty-seven counties fall below the group health plan ratio. People newly moved to booming communities are having problems putting themselves under the care of a primary physician. The situation is even more acute in the counties where the ratio of physicians to population is especially low. Physicians themselves are recognizing this problem and many in the primary care group have had to close their practices to new patients except for urgent and emergent care. Here again, the distribution problem is acute.

Tables V and VI indicate that there is a shortage in Florida of pediatricians among the primary care group despite the apparent overall excess in primary care. There are about eight pediatricians per 100,000 general population in the U.S. and only about seven and one-half per 100,000 in Florida, a "shortage" of just over forty for the state by this comparison. However, the group health plans have

TABLE V

PHYSICIAN EXCESS OR DEFICIT VERSUS STAFFING OF FIVE GROUP HEALTH PLANS

(Physicians per 100,000 Population)

SPECIALTY	NUMBER IN PRACTICE	REQUIRED NUMBER GHP RATIOS	EXCESS OR DEFICIT
PRIMARY CARE	60.9	59.0	+ 1.9
DERMATOLOGY	2.0	2.1	- 0.1
NEUROLOGY	1.4	0.7	+ 0.7
NEURO SURGERY	1.3	1.1	+ 0.2
OB/GYN	8.9	9.7	- 0.8
OPHTHALMOLOGY	5.4	2.5	+ 2.9
ORTHOPEDICS	5.6	3.3	+ 2.3
OTOLARYNGOLOGY	3.0	2.4	+ 0.6
PEDIATRICS (Included in Primary Care)	(7.4)	(16.9)	(- 9.5)
PHYSICAL MEDICINE	0.4	1.0	- 0.6
PSYCHIATRY	7.0	2.1	+ 4.9
SURGERY	15.4	7.8	+ 7.6
UROLOGY	4.0	1.7	+ 2.3
SUB-TOTAL	115.3	93.4	+21.9
ANESTHESIOLOGY, PATHOLOGY, RADIOLOGY	15.3	5.8	+ 9.5
TOTAL	130.6	99.2	+31.4

NOTE: Population (7,200,000 est.) as of July 1, 1972.
Number of Physicians as of February 16, 1973.

a ratio of nearly seventeen pediatricians per 100,000 and Florida is currently 684 pediatricians short of that criterion. Part of this difference is based on the fact that the group health plans have a higher than average percentage of children among their members. Also influencing the plans' staffing is the intent to concentrate the primary care of children with pediatricians.

It is often erroneously assumed that, because the population of Florida aged 65 or over is high compared to the nation as a whole, that the population under 14 is markedly under that of the nation as a whole. This is not true. The percentage of the population in the 1970 census for the under 14 age group was about 24% for Florida compared with about 26% for the United States.[5] While the Florida population which is 65 and older is about 50% higher than that in the country as a whole, the population under 14 in Florida is less than 9% under the national average.[5] A great deal of the care of Florida children is obviously being given by other members of the primary care group. This does not necessarily mean that adequate care is not being given children by other primary care physicians, but it does mean a low ratio of pediatricians.

In a 1970 report, the Council on Pediatric Practice of the American Academy of Pediatrics stated "The American health care delivery system for children is presently lacking adequate numbers of professional persons".[6] Among its many recommendations, the Council

TABLE VI

PHYSICIAN EXCESS OR DEFICIT IN FLORIDA VERSUS STAFFING RATIOS OF FIVE GROUP HEALTH PLANS

SPECIALTY	NUMBER IN PRACTICE	REQUIRED NUMBER GHP RATIOS	EXCESS OR DEFICIT
PRIMARY CARE	4384	4248	+136
DERMATOLOGY	147	151	- 4
NEUROLOGY	100	50	+ 50
NEURO SURGERY	90	79	+ 11
OB/GYN	639	698	- 59
OPHTHALMOLOGY	389	180	+209
ORTHOPEDICS	403	238	+165
OTOLARYNGOLOGY	212	173	+ 39
PEDIATRICS (Included in Primary Care)	(533)	(1217)	(-684)
PHYSICAL MEDICINE	29	72	- 43
PSYCHIATRY	503	151	+352
SURGERY	1112	562	+550
UROLOGY	281	122	+159
TOTAL	8289	6724	+1565

NOTE: Population (7,200,000 est.) as of July 1, 1972.
Number of Physicians as of February 16, 1973.

proposed meeting this manpower need by expanding the supply of physicians through expanded residency programs for the training of primary care physicians.

The scope of services in the group health plans is very limited in psychiatry and the plans do not presume to meet the total needs for psychiatrists' services.

Generally, the other excesses by group health plan standards are not so excessive when measured against estimated "medical market place" criteria. The "excess" of ophthalmologists and urologists is not unreasonable, given the high proportion of aged in Florida. The high number of orthopedists unquestionably relates to the low number of physiatrists. Only the surgeons might be in excess even for an uncontrolled statewide system. In toto, as indicated in the first column of Table V , the Florida total of 130.6 physicians per 100,000 is a modest number by national standards, despite being 31 in excess of the group health plan criteria.

Some of the developers of the group health plans and their staffing patterns are quick to say that these patterns should not be used as criteria for other and different population groups. Clearly, there is a shortage of experience and information about the ideal number of physicians, in general and in the various specialties, to the general population. The generation of such criteria sometimes is considered suspect.

CRITERIA

Any attempt to establish ideal ratios of the various kinds of physicians to population accents this extreme lack of criteria for the general medical market place. In addition to the ratios for the group health plans, there are records of the number of primary and specializing physicians who actually practice among certain populations but there are very few current recommended physician ratios for good medical care in the ordinary, little organized, American health care system.

There has been a general reluctance to recommend ratios and an insistence on qualifying any recommendations in terms of variations in income, distance, changes in health care delivery, professional and educational policy, etc. Knowles has quite properly cited literally scores of variables which should be considered in the development of physician to population ratios.[7] However, these variables are so numerous and complex that they nearly defy their use as a basis for determining ratios and, as Knowles states, most may be altered at a moment's notice.*

On two occasions, in 1961 and 1967, Medical Economics suggested some ratios[8] (Appendix A). Appropriately qualified as to their application to specific areas, they recommended more physicians per 100,000 population in most fields of practice in 1967 than in 1961. More recently, some estimated ratios were proposed by Steinle as "working" figures, rather than needs[9] (Appendix B).

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*By no means does this report deny the need for better organization of the delivery of health services. However it is not likely that sweeping changes will occur in the nation or in Florida in the immediate future. Meanwhile, Florida's population and number of physicians grow at a fantastic rate.

In early 1972, in a special report from the American Medical Association, Mason explored the staffing patterns of several group health plans and the ratios of physicians in practice to population[10] (Appendix C). No specific recommendations were made and the distribution problem was accented. Still more recently, Bennett has compared the group health plans ratios with the numbers of practitioners in the states of Washington, Alaska, Montana and Idaho, for residency program planning.[11] In primary care the ratios were about the same.

In April, 1973, Korst reviewed the supply of physicians in Wisconsin and matched the number of practitioners by specialty against the national ratios as reported by Mason.[12] Korst's inventory, convered to physicians per 100,000 population, reports 50.6 physicians per 100,000 in the primary care grouping of Amily Practice (including General Practice), Internal Medicine and Pediatrics. He suggests the greatest increases are needed in Internal Medicine, Pediatrics and Ob/Gyn. Overall, he suggests Wisconsin's ratio of all practitioners, 123:100,000 population, might well be raised (by adding 750 physicians) to a ratio of 140, to more nearly equal the national average.

FLORIDA RATIOS

This report suggests physician staffing ratios for the average medical market place. They are called the Florida Baseline Physician Ratios (FBPR) and are shown in Table VII. These Ratios are an amalgam of the group health plan ratios, the other ratios cited above and the actual ratios of physicians to population in the U.S. in 1970, modified by the author to reflect generally Florida's particular geographic and population characteristics. Admittedly not applicable to every area or population, it is believed that these ratios have considerable value as baseline or foundation ratios which will help physicians, health planners and others to understand and identify a shortage (or

TABLE VII

RECOMMENDED NUMBER OF PHYSICIANS BY SPECIALTY PER 100,000 POPULATION FOR FLORIDA

FLORIDA BASELINE PHYSICIAN RATIOS (FBPR)

	RECOMMENDED NUMBER - FBPR
PRIMARY CARE	80
DERMATOLOGY	2
NEUROLOGY	1
NEURO SURGERY	1
OB/GYN	10
OPHTHALMOLOGY	5
ORTHOPEDICS	5
OTOLARYNGOLOGY	3
PEDIATRICS(Included in Primary Care)	(10)
PHYSICAL MEDICINE	1
PSYCHIATRY	10
SURGERY	15
UROLOGY	3
SUB-TOTAL	136
ANESTHESIOLOGY,PATHOLOGY,RADIOLOGY	15*
TOTAL	151

*This is not a recommended ratio for these three specialties. This number is the ratio in which they practice in Florida in 1973 and is included to round out the total clinical practitioner group.

excess) of physicians' services. They form a starting point which can easily be modified, and should be, for the particular characteristics of a specific population. It is also felt that they have value, in their recommended form, for large populations and for gross comparisons. Further, they can be the means of drawing attention to physician service opportunities and problems.

The Florida Baseline Physician Ratios have been designed to provide Floridians with 151 licensed and practicing physicians per 100,000 population. Some slight revision, probably upward, will be made when ratios are developed for anesthesiologists, pathologists, and radiologists.

The total of 151 seems proper for the following reasons:

1) The growth emphasis is on the physicians rendering primary care, where the shortage is considered to be particularly acute.
2) Except in primary care, the individual ratios relate well to the numbers in actual practice on the average in the U.S. and will thus emphasize Florida's relative shortages or excesses.
3) It avoids fractions in the individual ratios, thus making the technique of applying the ratios easier and more readily understood. Where rounding up to whole numbers has developed a significant percentage change, as in the less numerous specialties, the rounding has been designed to reflect Florida's

unusual needs among the older age group.*

4) The total FBPR ratio is readily attainable in the light of the number of physicians migrating to Florida or being trained in Florida's medical educational programs.

A criterion of 80 primary care physicians per hundred thousand people is recommended by this study for a number of reasons.

In Florida, as elsewhere, the number of general practitioners is declining and their average patient load increases. High population, low income, urban areas, and lightly populated, rural areas are, again as elsewhere, often short of accessible physicians' services.

An increase of 21 over the group health plan ratios seems reasonable because the staffing pattern in primary care physicians for the group health plans is based on controlled membership with a relatively lower proportion of high risk patients compared to the general population. The group health plans either own hospitals or affiliate with hospitals and otherwise have preferred access to facilities for ambulatory diagnosis and treatment and for hospitalization. These tend to lessen the use of primary physicians' services.

The fact that there are about 15% of Floridians who are 65 or older, compared with 10% in the United States, creates an unusual demand for the services of primary care physicians and raises the number required.

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*It should be noted that neurologists and neurosurgeons have each been rounded down from 1.2 to 1.0 in terms of their proportion in the U.S. This is a significant percentage reduction which does not infer a lesser need. However, these specialties and physical medicine require the highest population for one practitioner, a population existing in only sixteen Florida counties, and are readily adjusted for these areas.

TABLE VIII

PHYSICIAN EXCESS OR DEFICIT IN FLORIDA IN COMPARISON TO FLORIDA BASELINE PHYSICIAN RATIOS (FBPR)

(PHYSICIANS PER 100,000 POPULATION)

	Number in Practice*	Required Number FBPR	Excess or Deficit
PRIMARY CARE	60.9	80.0	-19.1
DERMATOLOGY	2.0	2.0	--
NEUROLOGY	1.4	1.0	+ 0.4
NEURO SURGERY	1.3	1.0	+ 0.3
OB/GYN	8.9	10.0	- 1.1
OPHTHALMOLOGY	5.4	5.0	+ 0.4
ORTHOPEDICS	5.6	5.0	+ 0.6
OTOLARYNGOLOGY	3.0	3.0	--
PEDIATRICS (In Primary Care)	(7.4)	(10.0)	(- 2.6)
PHYSICAL MEDICINE	0.4	1.0	- 0.6
PSYCHIATRY	7.0	10.0	- 3.0
SURGERY	15.4	15.0	+ 0.4
UROLOGY	4.0	3.0	+ 1.0
SUB-TOTAL	115.3	136.0	-20.7
ANESTHESIOLOGY, PATHOLOGY, RADIOLOGY	15.3	15.0°	+ 0.3
TOTAL	130.6	151.0	-20.4

*as of February 16, 1973

°This is not a recommended ratio for these three specialties. This number is the ratio in which they practice in Florida in 1973 and is included to round out the total clinical practitioner group.

The FBPR number of pediatricians among primary care physicians is set at 10:100,000. This is felt to be an attainable ratio, above the national average but well under the group health plan ratios. It will raise the number of pediatricians significantly but it also reflects realistically the number which might actually decide to practice in Florida.

If 59:100,000 is a low criterion for primary care physicians, a recent study by three investigators at Yale has developed a high criterion for primary care physicians of 133 per 100,000 population. It has been carefully built of the needs for high quality care of adults and children by primary physicians in the areas of acute care, chronic care and well child care. This ratio would consume the services of nearly all of Florida's physicians, both primary and specialty, and suggests a conservatism in the FBPR primary physician ratio of 80.

In addition to influencing the number of primary physicians needed, the high incidence of aged justifies some of the specialists who are in excess of the staffing patterns for the group health plans. For example, a high number of patients in the older age group creates a demand for a higher number of ophthalmologists, orthopedists and urologists.

FLORIDA DEFICIT OF 1503 PHYSICIANS

Table VIII compares the FBP Ratios with the ratios of physicians in practice per 100,000 population. The ratios of physicians in practice are, by and large, much closer to FBPR than to the group health plan ratios, except in Primary Care.

Table IX compares the total inventory of physicians as of February 16, 1973, with the numbers of physicians suggested by the FBP Ratios. These

TABLE IX

Physicians in Practice in Florida Compared to the Number Required by the Florida Baseline Physician Ratios (FBPR) for a Population of 7,200,000

	Number in Practice*	Required Number FBPR	Excess or Deficit
PRIMARY CARE	4384	5760	-1376
DERMATOLOGY	147	144	+ 3
NEUROLOGY	100	72	+ 28
NEURO SURGERY	90	72	+ 18
OB/GYN	639	720	- 81
OPHTHALMOLOGY	389	360	+ 29
ORTHOPEDICS	403	360	+ 43
OTOLARYNGOLOGY	212	216	- 4
PEDIATRICS (Included in Primary Care)	(533)	(720)	(- 187)
PHYSICAL MEDICINE	29	72	- 43
PSYCHIATRY	503	720	- 217
SURGERY	1112	1080	+ 32
UROLOGY	281	216	+ 65
TOTAL	8289	9792	-1503

* as of February 16, 1973

numbers are those required by a population of 7,200,000, the population estimate for the state on July 1, 1972.

This comparison shows Florida, as a state, to have a net deficit of 1503 physicians for primary care and the specialties, excluding anesthesiology, pathology and radiology. Most serious is a shortage of 1376 primary care physicians, including 187 pediatricians. There is a distinct shortage of psychiatrists (217), a requirement for more obstetrician/gynecologists (81) and a need to more than double the number of physiatrists by adding 43.

The number of practicing dermatologists, ophthalmologists, otolaryngologists and surgeons are within 10% of the recommended numbers and the orthopedists are just 12% in excess. The Ratios elicit a surplus of 65 urologists.

The numbers of neurologists and neurosurgeons in practice are reported to be over ratio by 28 and 18 respectively. As indicated earlier, these excesses are partly the product of restricting the ratios to whole numbers of physicians for baseline purposes. The neurosurgeons are only slightly above the national average and the neurologists are within sixteen per cent. The specialists occurring in small numbers are measured best in relation to the major population centers within Florida.

To summarize the findings in Table IX, Florida has a need to encourage into practice a large number of primary care physicians, a relatively large number of psychiatrists and some more obstetrician/gynecologists. Floridians also seem to need a very sizeable proportionate increase in physiatrists or other specialists in the field of rehabilitative medicine. There is a need to maintain the adequacy of the other specialties.

PHYSICIAN DISTRIBUTION AND LOCAL RATIOS

Deserving reemphasis is the problem of distribution of physicians within the state. The most effective solutions to problems of physician supply will come at the level of cities, counties, groups of counties or other medical market areas.

The recommended ratios should be useful for a preliminary match between resources and needs in any part of Florida. It is reemphasized that they are baseline and should be adjusted for significant, local factors bearing on either need or supply. In addition to the conditions cited earlier, local revision of the ratios should consider the impact of U.S. military hospitals and their medical staffs on the health care of the population of a county or area. Often there are sizeable numbers of retired military and families of active service personnel whose health services are provided by the military medical care system. Escambia County, with its U.S. Naval Aerospace Medical Center, illustrates the need for this adjustment.

A number of counties and regions have been selected (Appendices D to I) to illustrate the relation between available physicians and the need ratios. The FBP Ratios can be applied to any county or section, at present or in the future, with a revised or projected population.

They should often be applied to a group of counties to realistically portray the adequacy of physicians' services in a medical service area. This is illustrated by the differences between the relationships in Appendices D-1 and E-1 for Orange and Alachua Counties alone and those

in D-2 and E-2, which are for the service areas. This is also illustrated by Appendix F which shows that the group of counties around Tallahassee is one of the most underdoctored areas in the state.

POPULATION CHANGE

A revised estimate of 7,441,545 for Florida's population, retroactive to July 1, 1972, was reported after the data in this study was developed with county breakdowns on the basis of the earlier estimate of 7,210,300.[14] Nearly half the increase in the revised estimates occurred in four already well populated counties and the new estimates do not change significantly the ratios reported in this study. Broward County had the greatest upward revision, about 38,000. Broward is the state's second most populous county, with nearly ten percent of the population and about ten percent of the physicians.

The revised estimates, however, certainly emphasize the rapid growth in Florida's population. Any report on physician need must take the extraordinary census projections into consideration. The latest estimate of Florida's population for 1980 is 9,378,700, according to the Bureau of Economic and Business Research of the University of Florida. Based on FBPR the need for physicians in 1980 is portrayed in Table X. This indicates a need for 4,495 more physicians in primary care and the specialties projected in this report,for a total of 12,784. This need grows to 4801 more physicians when the anesthesiologists, pathologists and radiologists are added in their present proportions, for a grand total of 14,194 Florida physicians. While this is a fifty percent growth in need, it will be met easily by the projected growth in the number of practitioners. The projections in the Penrod study,[3]

TABLE X

Florida's Needs for Additional Physicians by Florida Baseline Physician Ratios in 1980 (Est. Population = 9,400,000)

	Number in Practice*	Required # by FBPR	Excess or Deficit
PRIMARY CARE	4384	7520	-3136
DERMATOLOGY	147	188	- 41
NEUROLOGY	100	94	+ 6
NEURO SURGERY	90	94	- 4
OB/GYN	639	940	- 301
OPHTHALMOLOGY	389	470	- 81
ORTHOPEDICS	403	470	- 67
OTOLARYNGOLOGY	212	282	- 70
PEDIATRICS (In Primary Care)	(533)	(940)	(- 407)
PHYSICAL MEDICINE	29	94	- 65
PSYCHIATRY	503	940	- 437
SURGERY	1112	1410	- 298
UROLOGY	281	282	- 1
TOTAL	8289	12784	-4495

*as of February 16, 1973

after adjusting downward for the inactive physicians, show this need being equalled in 1977. Even a straight line projection of the net growth of 749 physicians in 1972, which is probably a low forecast, will produce 1980's needs by the end of 1978. It must be pointed out that these are projections for total physicians. Attempts to control the distribution by specialty and by geography must be carried out in the intervening years.

If the supply of physicians increases at this predicted rate, Florida could become overdoctored by the end of the current decade. A marked excess of physicians could mean an increase in fees, could threaten the quality of care and could result in protective action, relative to reciprocal licensure, by those states which lost their physician graduates and trainees to Florida.

FLORIDA'S VISITORS

Not so easy to revise will be the added county, regional and state needs generated by the flood of visitors to Florida from other areas. There were an estimated 24.6 million visitors in 1971. It is calculated by the Florida Department of Commerce that visitors were at least 26 million in 1972.[15] With an estimated average stay in Florida of two weeks, these visitors have the effect of adding one million persons to the Florida population, on a more or less "permanent" basis, which is not reflected in the official census counts and projections. This population requires more primary care physicians. It would also have an effect on the demand for services of other specialists in trauma and other emergency health needs--such as the surgeons, neurosurgeons, orthopedists and neurologists.

A reasonably diligent search has produced essentially no hard data on the need for physician's services generated by visitors, although dozens of physicians and other health providers and insurors interviewed are unanimously agreed that the visitors' needs and demands are significant. In and near Orlando, health professionals have identified a significant impact on need from visitors to Disney World.

Florida Blue Shield estimates that visitors generate about half as many claims under Medicare, Part B, as do permanent residents.[16] With over a million resident Floridians sixty-five or older, the Blue Shield experience would seem to indicate that visitors sixty-five and up were using physicians' services like a population of five hundred thousand.

On the other hand, travelers are inclined to go home to their regular physicians for non-emergent, elective and most chronic problems. This would seem particularly to be true for an average stay of about two weeks. Further, the number of visitors to Florida peaks in March, the summer months of June, July and August, and again in December. This unevenness fails to generate a uniform, continuous demand which would justify and support additional numbers of physicians to serve visitors alone. Undoubtedly, most of the physician needs of visitors are met by adding ad lib to the doctors' regular caseloads and by extensive use of the hospitals' emergency departments and emergency physicians.

Nevertheless, the visitors' needs for service are real ones and must be considered by physicians and health service planners. Pending the development of precise data, the author suggests that Florida's visitors require physicians' services at a rate of 30% of the resident

population. This would mean, based on the estimate of a million visitors on an average date in 1972, that the population figure for the state should be increased by 300,000 when physician ratios are calculated. At this visitor rate, it means adding 408 physicians to the statewide need, making the physician deficit in Table IX rise to 1911, not including the hospital based specialists. Visitors would require 240 more physicians in primary care. Visitors would raise the needs in some of the specialties to a different degree than do the permanent residents.

This report's estimated need of visitors for physicians' services may well be low. Further, the visitor impact is not so aptly applied to the state as a whole and becomes another factor which should be considered when the FBPR are adjusted for a county or area within the state. For example, there is some evidence that the visitors to Dade County have a high proportion of older persons who stay many months. This condition should be documented in refining the local needs. It may account in part for Dade's current high ratio.

FUTURE PLANNING

The projection of an adequate number of physicians for the state as a whole does not solve automatically the problems of improper distribution. Some successful answers have been demonstrated but most of the solutions are yet to be devised by the profession. It is hoped that the data base and the ratios in this report can be updated regularly to provide direction for continuous improvement in the supply and distribution of physicians, on the part of the state and communities, Florida's physicians, medical educators and health planners.

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APPENDIX A

SUGGESTED POPULATIONS PER SPECIALIST *

(TRANSLATED TO PHYSICIAN RATIOS PER 100,000 POPULATION)

	1961	1967
GENERAL PRACTICE	50	50
ALLERGY	4	4
CARDIOLOGY	1	1
INTERNAL MEDICINE	5	20
PEDIATRICS	4	10
SUB-TOTAL (PRIMARY CARE)	64	85
GENERAL SURGERY	10	10
PLASTIC SURGERY	2	2
THORACIC SURGERY	1	1
SUB-TOTAL (SURGERY)	13	13
ANESTHESIOLOGY	- - °	6.7
DERMATOLOGY	2	2
NEUROLOGY	1	1.3
NEUROSURGERY	0.7	1
OB/GYN	10	9
OPHTHALMOLOGY	5	5
ORTHOPEDICS	1.3	3.3
OTOLARYNGOLOGY	2	4
PATHOLOGY	2.8	5
PSYCHIATRY	2	10
RADIOLOGY	3.3	6.7
UROLOGY	5	3.3

*How Many People to Support a Specialist?, Medical Economics, Oct. 30,1967

°One per 50 general hospital beds.

APPENDIX B

SUGGESTED RATIO OF PHYSICIANS TO POPULATION*

(TRANSLATED TO PHYSICIAN RATIOS PER 100,000 POPULATION)

GENERAL PRACTICE	33.3
INTERNAL MEDICINE	14.3
PEDIATRICS	8.3
SUB-TOTAL (PRIMARY CARE)	55.9
ANESTHESIOLOGY	3.3
GENERAL SURGERY	12.5
OB/GYN	8.3
OPHTHALMOLOGY	4.0
ORTHOPEDICS	4.6
OTOLARYNGOLOGY	2.0
UROLOGY	4.0
PSYCHIATRY & NEUROLOGY	8.3
PATHOLOGY	3.3
RADIOLOGY	3.3
TOTAL	109.5

*Steinle, J.G.: Suggested Ratio of Physicians to Population, Hospital Topics, Vol. 9, March, 1971.

APPENDIX C

Average number of physicians by specialty per 100,000 population in the U.S. - 1970*

PRIMARY CARE	57.9
DERMATOLOGY	1.8
NEUROLOGY	1.2
NEURO SURGERY	1.2
OB/GYN	8.4
OPHTHALMOLOGY	4.5
ORTHOPEDICS	4.3
OTOLARYNGOLOGY	2.4
PEDIATRICS (Included in Primary Care)	(7.8)
PHYSICAL MEDICINE	.6
PSYCHIATRY	9.7
SURGERY	15.0
UROLOGY	2.7
SUB-TOTAL	109.7
ANESTHESIOLOGY, PATHOLOGY AND RADIOLOGY	15.1
TOTAL	124.8

*For all States and the District of Columbia.

Source - Distribution of Physicians in the U.S., 1970, American Medical Association, as analyzed by Mason,° adjusted to ratios per 100,000 population and grouped as follows:

1) Primary Care includes average state ratios for Family Practice (including General Practice), Internal Medicine, and Pediatrics.

2) Surgery includes General Surgery, Plastic Surgery, Colon and Rectal Surgery and Thoracic Surgery.

Population from U.S. Bureau of Census, 1970 Population.

°Mason, H.R.: Manpower Needs by Specialty, JAMA, Vol. 219, March 20, 1972.

APPENDIX D-1

COUNTY ORANGE POPULATION (7/1/72 est.) 390,000

	Number in Practice 2/16/73	Required Number - FBPR	Excess or Deficit	Remarks
PRIMARY CARE	234	312	-78	
DERMATOLOGY	7	8	- 1	
NEUROLOGY	5	4	+ 1	
NEURO SURGERY	6	4	+ 2	
OB/GYN	39	39	-	
OPHTHALMOLOGY	24	20	+ 4	
ORTHOPEDICS	38	20	+ 18	
OTOLARYNGOLOGY	11	12	- 1	
PEDIATRICS (In Primary Care)	(33)	(39)	(- 6)	
PHYSICAL MEDICINE	2	4	- 2	
PSYCHIATRY	27	39	- 12	
SURGERY	78	59	+ 19	
UROLOGY	20	12	+ 8	
TOTAL	491	533	- 42	

APPENDIX D-2

COUNTY Lake Orange Osceola Seminole POPULATION (7/1/72 est.) 586,000

	Number in Practice 2/16/73	Required Number - FBPR	Excess or Deficit	Remarks
PRIMARY CARE	307	469	-162	
DERMATOLOGY	8	12	- 4	
NEUROLOGY	6	6		
NEURO SURGERY	6	6		
OB/GYN	46	59	- 13	
OPHTHALMOLOGY	28	29	- 1	
ORTHOPEDICS	44	29	+ 15	
OTOLARYNGOLOGY	13	18	- 5	
PEDIATRICS (In Primary Care)	(39)	(59)	(- 20)	
PHYSICAL MEDICINE	2	6	- 4	
PSYCHIATRY	28	59	- 31	
SURGERY	97	88	+ 9	
UROLOGY	23	18	+ 5	
TOTAL	608	799	- 191	

APPENDIX E-1

COUNTY Alachua POPULATION (7/1/72 est.) 111,000

	Number in Practice 2/16/73	Required Number - FBPR	Excess or Deficit	Remarks
PRIMARY CARE	133	89	+44	
DERMATOLOGY	2	2		
NEUROLOGY	7	1	+ 6	
NEURO SURGERY	7	1	+ 6	
OB/GYN	22	11	+ 11	
OPHTHALMOLOGY	24	6	+ 18	
ORTHOPEDICS	12	6	+ 6	
OTOLARYNGOLOGY	11	3	+ 8	
PEDIATRICS (In Primary Care)	(39)	(11)	(+ 28)	
PHYSICAL MEDICINE	1	1		
PSYCHIATRY	34	11	+ 23	
SURGERY	53	17	+ 36	
UROLOGY	6	3	+ 3	
TOTAL	312	151	+161	

APPENDIX E-2

COUNTY Alachua & 11 neighboring counties (CHP District 3) POPULATION (7/1/72 est.) 321,000

	Number in Practice 2/16/73	Required Number FBPR	Excess or Deficit	Remarks
PRIMARY CARE	216	257	-41	
DERMATOLOGY	3	6	- 3	
NEUROLOGY	7	3	+ 4	
NEURO SURGERY	8	3	+ 5	
OB/GYN	32	32	-	
OPHTHALMOLOGY	27	16	+11	
ORTHOPEDICS	16	16	-	
OTOLARYNGOLOGY	13	10	+ 3	
PEDIATRICS (In Primary Care)	(46)	(32)	(+14)	
PHYSICAL MEDICINE	1	3	- 2	
PSYCHIATRY	37	32	+ 5	
SURGERY	66	48	+18	
UROLOGY	10	10	-	
TOTAL	436	436	0	

APPENDIX F

COUNTY Leon and 10 Counties * POPULATION (7/1/72 est.) 254,000

	Number In Practice 2/16/73	Required Number FBPR	Excess or DEFICIT
PRIMARY CARE	98	203	-105
DERMATOLOGY	3	5	- 2
NEUROLOGY	2	3	- 1
NEURO SURGERY	2	3	- 1
OB/GYN	11	25	- 14
OPHTHALMOLOGY	5	13	- 8
ORTHOPEDICS	6	13	- 7
OTOLARYNGOLOGY	5	8	- 3
PEDIATRICS (In Primary Care)	(10)	(25)	(- 15)
PHYSICAL MEDICINE	0	3	- 3
PSYCHIATRY	20	25	- 5
SURGERY	22	38	- 16
UROLOGY	6	8	- 2
TOTAL	180	347	-167
TOTAL			

* Calhoun, Franklin, Gadsen, Gulf, Jackson, Jefferson, Liberty, Madison, Taylor, and Wakulla Counties.

APPENDIX G

COUNTY DADE POPULATION (7/1/72 est.) 1,341,000

	Number in Practice 2/16/73	Required Number FBPR	Excess or Deficit	
PRIMARY CARE	1290	1073	+ 217	
DERMATOLOGY	46	27	+ 19	
NEUROLOGY	36	13	+ 23	
NEURO SURGERY	24	13	+ 11	
OB/GYN	170	134	+ 36	
OPHTHALMOLOGY	108	67	+ 41	
ORTHOPEDICS	106	67	+ 39	
OTOLARYNGOLOGY	51	40	+ 11	
PEDIATRICS (In Primary Care)	(151)	(134)	(+ 17)	
PHYSICAL MEDICINE	15	13	+ 2	
PSYCHIATRY	177	134	+ 43	
SURGERY	306	201	+ 105	
UROLOGY	69	40	+ 29	
TOTAL	2398	1822	+ 576	

APPENDIX H

COUNTY DUVAL POPULATION (7/1/72 est.) 547,000

	Number in Practice 2/16/73	Required Number FBPR	Excess or Deficit	
PRIMARY CARE	237	438	- 201	
DERMATOLOGY	8	11	- 3	
NEUROLOGY	8	5	+ 3	
NEURO SURGERY	7	5	+ 2	
OB/GYN	69	55	+ 14	
OPHTHALMOLOGY	25	27	- 2	
ORTHOPEDICS	32	27	+ 5	
OTOLARYNGOLOGY	14	16	- 2	
PEDIATRICS (In Primary Care)	(44)	(55)	(- 11)	
PHYSICAL MEDICINE	0	5	- 5	
PSYCHIATRY	26	55	- 29	
SURGERY	92	82	+ 10	
UROLOGY	23	16	+ 7	
TOTAL	541	742	- 201	

APPENDIX I

COUNTY HILLSBOROUGH POPULATION (7/1/72 est.) 509,000

	Number in Practice 2/16/73	REQUIRED NUMBER FBPR	Excess or Deficit	
PRIMARY CARE	256	408	- 152	
DERMATOLOGY	8	10	- 2	
NEUROLOGY	3	5	- 2	
NEURO SURGERY	3	5	- 2	
OB/GYN	40	51	- 11	
OPHTHALMOLOGY	24	26	- 2	
ORTHOPEDICS	21	26	- 5	
OTOLARYNGOLOGY	18	15	+ 3	
PEDIATRICS (In Primary Care)	(38)	(51)	(- 13)	
PHYSICAL MEDICINE	3	5	- 2	
PSYCHIATRY	34	51	- 17	
SURGERY	68	77	- 9	
UROLOGY	20	15	+ 5	
TOTAL	498	694	- 196	

Florida Regional Medical Program